IN THE SPECIFICATION

Please amend the paragraph beginning at page 1, line 21, as follows:

[0003] In processing such as polishing and surface finishing, for example, use has been made of magnetic fluids, which are fluids containing a dispersion of angstrom-order magnetic particles. When used on their own, such a fluid has almost no polishing effect, so abrasive particles are added to the fluid for polishing applications. The magnetism induced in the magnetic fluid by a magnetic field causes the abrasive particles to be pressed against the workpiece surface by the fluid. Although polishing using a magnetic fluid is suitable when the workpiece to be polished has a spherical or other such special shape, magnetic fluid polishing has a number of problems. For example, magnetic fluid induction produces a small processing pressure that results in a low polishing efficiency. In addition, a magnetic substance prevents the polishing process to suppress the effect of enhancing ~~surace~~ surface roughness. Other problems include scratching caused by fragments of removed material that become entrained in the magnetic fluid, and the fact that in the case of a magnetic workpiece, movement of the abrasive particles is constrained, making it impossible to achieve the required polishing effect. Such problems have limited the application of polishing using magnetic fluids.

Please amend the paragraph beginning at page 4, line 21, as follows:

[0010] To attain the above object, the present invention provides a polishing apparatus, comprising an electrode comprised of a plurality of electrode elements, a driving means for driving the electrode, and abrasive particles having a dielectric property disposed between the electrode and a workpiece at a position at which processing pressure is applied by a Coulomb force produced by application of an alternating-current voltage to the

electrode. That is to say, the present invention relates to an apparatus that utilizes a Coulomb force to collect on a sample abrasive particles while dispersing the abrasive particles onto [[te]] the sample and applies a processing pressure to the collected abrasive particles, thereby performing the polishing process.

Please amend the paragraph beginning at page 12, line 24, as follows:

[0042] Figure 9 shows an electrode according to a fourth embodiment of the invention, that is used to polish a three-dimensional workpiece making use of a Coulomb force attracting the abrasive particles to [[to]] the electrodes, with Figure 9(a) being a perspective view of the electrode and Figure 9(b) showing the electrode portion. The electrode body 30 comprises a pliant, porous member and electrode elements shaped like the teeth of a comb. As shown in Figure 9(b), the electrode elements 31a and 31b shaped like the teeth of a comb are mutually opposed, with the teeth portions being mutually offset with a prescribed spacing therebetween. An alternating-current voltage is applied to the electrode elements 31a and 31b. Changes in the field polarity imparted by a low-frequency alternating-current electrical field are used to effect dressing by producing contact and collisions of the abrasive particles, and are also effective for removing polishing debris and preventing clumping of the abrasive particles. Sponge, foamed resin and so forth can be used to form the pliant, porous member. The apparatus thus configured was used to polish a workpiece having a surface processed to a roughness of 10 μm Ry by an electrical discharge machine. Polishing for 30 minutes at a processing force of 500 gf and an applied electrical field strength of ±2.0 kV/mm resulted in a mirror-surface roughness of 0.2 μm Ry.